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ABSTRACT

Reading guides designed to take a reader through three levels of comprehension--literal, interpretive, applied--can be useful to the shop teacher. The actual teacher-led, hands-on activity at the third level helps students develop a sense of independence in the comprehension process. Organizational pattern guides also help students comprehend technical material. The most common patterns are cause/effect, comparison/contrast, time order, and simple listing. Because vocabulary development is so important in vocational shop areas, the structured overview can be used to present familiar words and to teach new technical terms associated with particular lessons. Word puzzles and matching vocabulary exercises also assist in reinforcing the students' knowledge of the definitions of technical words. Finally, the cloze procedure provides the shop teacher with a simple, economical, and quick way of matching the reading level of the student with the level of the textbook. (Includes samples of each type of guide and exercise.) (JL)

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A Reading Program For Technical Education

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A FUNDAMENTAL READING STRATEGY

This proposal attempts to define a functional approach to reading instruction that does not reduce time spent in classroom activities. The instructional strategy incorporates teacher prepared reading guides, vocabulary puzzles, readiness activities, and a cloze test taken from the unit text.

This functional strategy is a teaching methodology that utilizes three level reading guides to assist students in adapting basic reading skills implicit in the content material read in class. The reading guides are designed to guide the reader through three levels of comprehension as they apply to a specific passage in the text.

The cloze test, a passage from the text with every 5th word deleted, assists in assessing whether the functional reading strategy affects the students ability to process information gained through the reading guides, vocabulary puzzles, and readiness activities. The cloze test, like the reading guides, takes a minimum of time from the scheduled period.

The following methodologies can assist in increasing the students' comprehension of content material while "aiding" in vocabulary development.

Comprehensive Reading Guides

Several strategies have been presented that teach reading within the structure of a content area, either directly in contiquity to the content or, functionally through the content. One such strategy utilizes structures designed to increase the comprehension of specific content material by guiding student responses.

Students in a heterogeneous class can be guided in reading content material through the use of a three-levels-of-comprehension construct or, reading guide. Reading guides are sets of materials designed to guide a reader through three levels of comprehension. First, the student reads the words of the author and determines what the author is saying. Secondly, the student determines what the author means and is an expression of what the author seems to intend. Third, the student takes what the author said, what the author meant by what he/she said, and applies it to other knowledge already in possession (Herber, 1978).

The student can discuss the first (literal) and second (interpretive) level in small groups or with the whole class during the introductory minutes of the shop period. The reading guide, along with an appropriate text, can then be taken home for individual review. Here then, lies the value of a three level guide to the classroom teacher. The third level (applied) is an actual teacher led, hands-on activity that lends itself to the assignment and is associated with a particular unit of study. By repeating this process over a period of time, students can develop a sense of independence in the comprehensive process. Actual studies have shown that relatively little time is taken from the total weekly program to discuss the three level guide once the student becomes familiar with the guiding process. Consequently, well constructed guides can give students the feeling of the total comprehension process, and that is the purpose of their use (see attached).

Organizational Patterns

Another discussion of comprehension used to aid students in their reading of content material is the use of organizational pattern guides. A pattern describes how the author organizes the presentation of his/her information and ideas. They simulate the inner organization of the authors book or passage. The four organizational patterns characteristic of content material are:

1. Cause/effect

An example of cause/effect organization may be an authors description of unemployment and inflation in Europe before the "Great Depression".

II. Comparison/contrast

A description of the mechanical advantages of brake shoes and brake drums versus disc brakes may present both likenesses and/or differences among both types of braking systems.

III. Time Order

The relationship of logical sequences may be illustrated by the events leading up to the Civil War. The historian can follow a logical time sequence.

IV. Simple Listing

Simple listing may be characterized by such criteria as size, importance, color, and weight. However, a listing of capital cities in the United States with no apparent priority rating, would be a fine example of the pattern of simple listing.

Structured Overview

There is also a great need for vocabulary development to take place within the classroom. The basic concepts of each educational area are communicated by the instructor using words not familiar to the student and to which students must assign definitions and meanings. Consequently, the deliberation of cocabulary development in the content areas must take into account the factors of time, materials, methods, and need.

The structured overview can be utilized to present familiar words and to teach new terms associated with the lesson. The use of the structured overview, like the three level reading guide, does not consume large amounts of time. The structured overview is built in class with the students. It is not presented to them as a teacher created information sheet. The class and the teacher structure what is already known, identify what has to be learned, and determine how this new knowledge can be applied to the learning task at hand (see attached).

Puzzles and Matching Exercises

Teachers of various subjects and various grade levels have found that both "word-puzzles" and "matching" vocabulary exercises have proven to be productive. Both types of exercises are also natural vocabulary reinforcement methodologies for the classroom teacher. The teacher can have the class work on vocabulary exercises in small groups, separately, at home, compare responses, and discuss correct answers. Puzzles and matching exercises can be performed before and/or after students read the text assignment. They assist in reinforcing the students knowledge of the definitions of subject matter (see attached).

Cloze Assessment

The cloze procedure, designed by Taylor (1953), provide the classroom teacher with a simple, economical, and quick way of matching the reading level of the student with the level of the textbook. In this way the teacher can make adjustments for students whose performance indicates possible textual difficulty. The cloze procedure involves the systematic deletion of words from a text passage. The student is asked to supply the missing words. The students ability to supply the missing word is a significant indicator of how well he/she can comprehend the technical passage. Conclusions indicate that if a student receives a cloze score of 61% (based on 50 missing words), then he/she would probably receive a 90% mark on a multiple-choice examination of the same text material (Rankin and Culhane, 1969).

The cloze procedure lends itself to the teaching techniques of the content area teacher. Passages from the assigned text are reproduced with every 5th word omitted and a blank line of approximately fifteen spaces are inserted in place of the word. The teacher does not have to create a series of true-false, or multiple-choice questions. The administration of the cloze does not take the class time of a comparable multiple-choice examination. Thus, the cloze procedure saves valuable class time that can be spent on experiences and classroom activities (see attached).

CONCLUSION

A functional reading strategy is a teaching methodology that incorporates the use of prepared reading guides within the structure of the content area. It further demonstrates how students can adapt basic reading skills implicit in the material read in class.

Data collected during the administration of the three level reading guides, cloze examination, organizational information, and miscellaneous puzzles indicate that students benefited from the functional reading strategy. The reading guides actually contributed to the students' increased comprehension of the content material as evidenced by the students' cloze and puzzle scores.

This proposal suggests that content area teachers are in a most strategic position to show students how to apply reading skills implicit in their subject matter materials.

Name _____ Date _____

School _____

Text: Elements of American Industry

Area: Graphic Arts

Grade: Eighth

Organizing Idea: Letterpress Printing - Page 176 - 179

Instructional Option: Levels of Comprehension
Reading Guide

Letterpress Printing

Level I

Directions: Check the items you think say what the author says. The exact words may or may not be used.

_____ 1. The invention of movable type made it possible to use the engraved letters and figures time after time.

_____ 2. Steam powered presses could produce printed matter in greater quantities.

_____ 3. Molten metal is poured over a papier-mache material to produce a flat or curved plate that is secured to the press.

_____ 4. Composing includes setting type and designing the printed page.

_____ 5. After lines of type are assembled in the composing stick, they are transferred to a galley.

Level II

Directions: Check the items that represent ideas you think the author means.

_____ 6. Movable type eliminated the need for engraving whole plates by hand.

_____ 7. Hand powered presses limited the quantities of printing materials.

_____ 8. The melting down of stereotype plates after each use allows the metal to be used over and over again.

_____ 9. Compositors have more than one job in getting ready for the press.

_____ 10. A galley is used to hold several lines of type after being transferred from the composing stick.

Level III

Directions: Follow the directions given in each statement. You may use your text for further reference. Discuss your answers with your neighbor.

11. Your shop has several galleys. Please locate a galley and examine it carefully. Why is one side open?

12. Select a composing stick. Place it in your left hand. That leaves your right hand free to select type. (For left handed students, place the composing stick in your right hand).

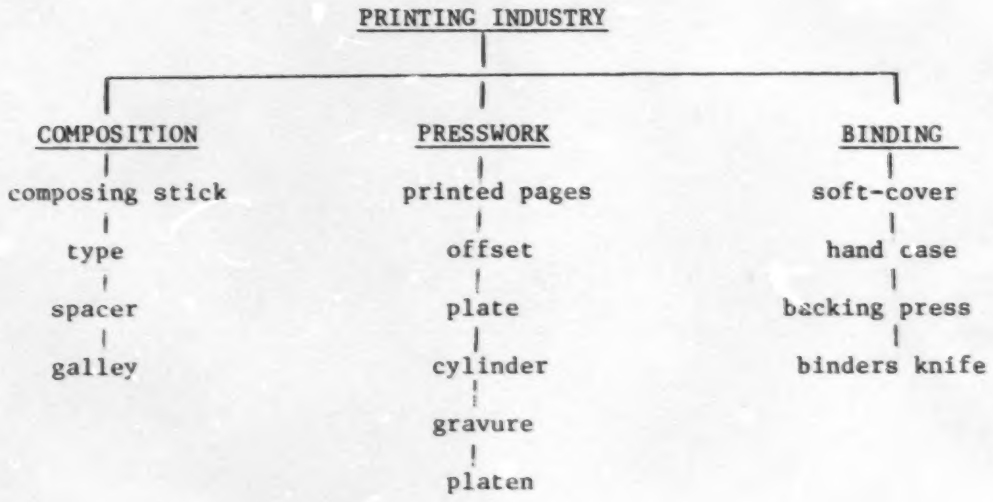
13. Following the directions of your instructor, compose a single line of type using a composing stick.

14. While setting your type, notice the space size of an en quad and en space.

15. Why do you suppose that the type compartment for the letter "e" is the largest of all type compartments?

Text: Elements of American Industry - Pages 177-178

This structured overview was developed with the students using an overhead projector to list the work units found in the printing industry. The instructor furnished the heading "Printing Industry." The class, through discussion, added the three main subheadings and vocabulary on pages 177-178 found in the text.



GRAPHIC ARTS

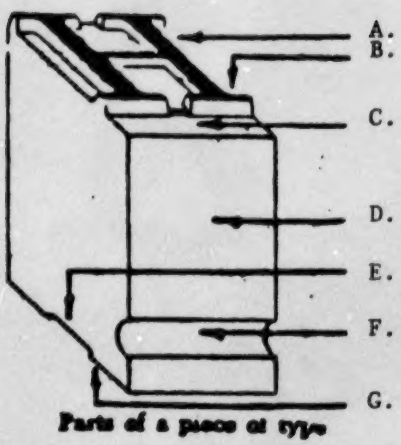
Unit Vocabulary Test

TEXT: Elements of American Industry

Pages 174 - 185

MATCHING

DIRECTIONS: Place the number of the correct term for each part of the type in the empty space provided on the right of the diagram.



Parts of a piece of type

1. groove
2. Serif
3. shoulder
4. feet
5. nick
6. face
7. body
8. character

WORD PUZZLE

DIRECTIONS: Read each sentence below. Locate a work having the same number of spaces provided. Write the word in the spaces that defines the sentence. Select your word from the list to the right of the puzzle.

1. ____ ____
2. ____ ____ ____ ____
3. ____ ____ ____ ____ ____
4. ____ ____ ____ ____ ____ ____
5. ____ ____ ____ ____ ____ ____
6. ____ ____ ____ ____ ____ ____

stone	platen
pica	gripper
plate	stencil
offset	engraving
tympan	lithographic
relief	em
gravure	en
type	varnish

1. It is considered the ideal space to use between words set in all upper case letters.
2. A unit of measure which is equal to twelve points.
3. The Greek word is lithos.
4. That part of a letter press that supports and guides the paper stock to the inked type.
5. A special oily, tough paper packed under the drawsheet.
6. Commonly referred to as letter press printing from type or engraving.

Cloze

Name _____ Date _____ _____

School _____ Grade _____

Text: Elements of American Industry - Page 178

Directions: Read the statement in its entirety. Go back and fill in the empty blanks with a single word for each blank.

The work performed in the printing industry can be divided into three main groups: composition, presswork and binding.

Composing includes he designing _____ the printed pages, preparing _____ cuts, setting the type, _____ other work which must _____ done in getting the _____ and cuts ready for _____ _____ press. The men who _____ at this phase of _____ publication are called compositors.

_____ is that part of _____ work involved in actually _____ the copy of the _____ press. The men who _____ the printing presses are _____ pressmen.

Binding involves all _____ work of assembling and _____ the finished product.

Before _____ the actual study of _____ composing operations, one should _____ an understanding of the _____ tools and equipment used _____ as type, spaces, galley, _____ ___ stick, and proof press.

_____ consists of the raised _____, figures, punctuation marks, and _____ characters used in printing. _____ raised character is on _____ end of a rectangular _____ of metal or wood. The main parts of _____ type are the face, _____ feet, and nick. The _____ is the surface which _____ the printing. The body _____ the face. The feet _____ a base upon which _____ type stands. The nick _____ _____ used as a reference _____ for the placement of _____ _____ type.

Printers use a _____ set of measurements. The _____ _____ is divided into 72 _____ called points. Twelve points _____ one pica, and six _____ is equal to one _____. The device used to _____ these measurements is graduated _____ picas and is called _____ line guage. The size _____ type is indicated by _____ which refer to the _____ of the type base _____ than to the actual _____ of the type. The _____ _____ common type sizes are _____, 10, 12, 18, 24, _____ and 36 point. Type _____ made in sizes ranging _____ __ to 144 point, with _____ larger sizes usually made _____ wood.

ANSWER SHEET

1. of
2. the
3. and
4. be
5. type
6. the
7. work
8. a
9. Presswork
10. the
11. producing
12. printing
13. operate
14. called
15. the
16. binding
17. starting
18. the
19. have
20. basic
21. such
22. composing
23. Type
24. letters
25. other
26. The
27. one
28. piece
29. the
30. body
31. face
32. does
33. supports
34. furnish
35. the
36. is
37. mark
38. the
39. special
40. inch
41. parts
42. make
43. picas
44. inch
45. make
46. in
47. a
48. of
49. points
50. measurement
51. rather
52. height
53. most
54. a
55. 30
56. is
57. up
58. the
59. from